

Appl. No. : 10/769,549
Filed : January 30, 2004

REMARKS

Reconsideration and allowance of this application, as amended, is respectfully requested. Prior to this Amendment, Claims 1-65 were pending in this application. Claims 2-9, 22, 23, 27, 32-37, and 41-65 have been canceled. Thus, Claims 1, 10-21, 24-26, 28-31, and 38-40 are now pending.

Claim 15 has been withdrawn from consideration, but Applicants respectfully assert that the Examiner's withdrawal was erroneous. Henceforth in this Amendment, Claim 15 is treated as being under consideration. Applicants' basis for asserting that the withdrawal was erroneous is set forth below.

Claims 1, 10, 15, 16, 18, 24, 29, 30, 38, and 39 have been amended to further clarify Applicants' claimed invention. The specific changes to the claims are shown above, wherein the insertions are underlined and the ~~deletions are stricken through~~ or, where strikethrough would not be apparent, [[surrounded by double brackets]].

Applicants submit that this application, as amended, is in condition for allowance and such action is earnestly requested. Each of the Examiner's reasons for rejection is addressed below.

Species Election

In the Response to Restriction Requirement filed on February 2, 2006, Applicants elected Species 1 (Figures 2A-2D) and identified Claims 1, 4, 6, 9-21, 24-26, 28-31, and 38-40 as reading on the elected species. The Office Action states that Claims 6 and 15 do not pertain to Species 1. In particular, the Office Action states that Claim 6 pertains to Species 2 (Figures 4A and 4B) and Claim 15 pertains to Species 4 (Figures 5A-5D). Accordingly, the Examiner has withdrawn Claims 6 and 15 from consideration. Applicants respectfully disagree with the assertion that Claims 6 and 15 do not pertain to Species 1.

Embodiments of the present application involve apparatuses for preventing rotational slippage between a vertical shaft and a substrate holder support spider. Species 1 is shown in Figures 2A-2D, which disclose a support spider 10, a vertical shaft 20, and a retaining member 22. The spider 10 includes a socket 14 that receives an upper end of the shaft 20, and spider arms 12 that support the underside of a substrate holder. The retaining member 22 has an

engaging portion 24 and a securing portion 32. As shown in Figure 3A, the upper end of the shaft 20 includes an indentation 30. When the shaft 20 is rotated into a particular alignment with an opening 26 in a sidewall of the socket 14, the engaging portion 24 of the retaining member 22 can be inserted into the opening 26 to prevent relative rotation between the shaft 20 and the spider 10. Also, the securing portion 32 can be retained within a securing element 34 on one of the spider arms 12.

Original Claim 6 recites that the retaining member is selectively removable. In describing the embodiment of Figures 2A-2D, the specification states that the retaining member 22 is removable:

“The securing element 34 is configured to allow the retaining member 22 to be *removed* by first rotating the securing portion 32 of the retaining member in a clockwise direction, thereby freeing the securing portion 32 of the retaining member 22 from the securing element 34. The engaging portion 24 can then be *removed*, if necessary, from the socket opening 26 by pulling the retaining member 22 out of the socket opening 26.”

Specification, paragraph 42 (emphasis added). Thus, it is clear that Species 1 involves a selectively removable retaining member 22, and that original Claim 6 reads onto Species 1. Note that Claim 6 has been canceled, and the limitations of original Claim 6 have been added to Claim 1. As amended, Claim 1 clearly reads onto Species 1.

Original Claim 15 recites that the retaining member and the at least one indentation of the shaft are configured so that the retaining member does not prevent the substrate holder support from being lifted vertically with respect to the shaft when the retaining member is inserted into both the opening and the at least one indentation. In describing the embodiment of Figures 2A-2D, the specification states the following:

“Preferably, embodiments of the present invention employ locking features configured to prevent rotational slippage when a retaining member 22 is in an engaged position, *without preventing the spider 10 from being lifted vertically in order to remove the spider 10 from the shaft 20* or rotational drive or rotational linkage. In other words, the retaining member (e.g., locking key) locks the support member to the rotational drive with respect to rotationally and

Appl. No. : 10/769,549
Filed : January 30, 2004

horizontally applied forces *without locking the support member to the rotational drive with respect to vertically applied forces* (e.g., forces parallel with the longitudinal axis of the rotational drive).”

Specification, paragraph 41 (emphasis added). Thus, Species 1 involves a system in which the spider 10 can be lifted vertically with respect to the shaft 20 when the retaining member 22 is inserted into both the opening 26 and the indentation 30 of the shaft 20. It is therefore clear that Claim 15 reads onto Species 1. Accordingly, Applicants respectfully request that the withdrawal of Claim 15 from consideration be reversed, and that Claim 15 be considered in the present application.

Rules Relating to Claim Rejections

An anticipation rejection under 35 U.S.C. § 102 requires that “every element of the claimed invention must be identically shown in a single reference.” *In re Bond*, 910 F.2d 831, 832 (Fed. Cir. 1990). “There must be no difference between the claimed invention and the reference disclosure, as viewed by a person of ordinary skill in the field of the invention.” *Scripps Clinic & Research Foundation v. Genentech, Inc.*, 927 F.2d 1565, 1576 (Fed. Cir. 1991).

In rejecting claims under 35 U.S.C. § 103, the Examiner bears the initial burden of presenting a *prima facie* case of obviousness. *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992). To establish a *prima facie* case of obviousness, the following criteria must be met. There must be some suggestion or motivation found in the prior art, either in one or more references or in the knowledge generally available to one of ordinary skill in the art, to modify a prior art reference or to combine reference teachings to meet the limitations of the claim. Second, there must be a reasonable expectation of success for the proposed modification. Third, the prior art reference (or references when combined) must teach or suggest all the claim limitations. M.P.E.P. § 706.02(j); *In re Vaeck*, 947 F.2d 488, 493 (Fed. Cir. 1991). “To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references.” *Ex parte Clapp*, 227 U.S.P.Q. 973, 973 (Bd. Pat. App. & Inter. 1985); M.P.E.P. § 706.02(j).

Appl. No. : 10/769,549
Filed : January 30, 2004

Claims 1 and 10-12

Claims 1 and 10 are rejected under 35 U.S.C. § 102(a) as being anticipated by U.S. Patent Application Publication No. US2003/0224105 to Chondroudis *et al.* ("Chondroudis"). In addition, Claims 11 and 12 are rejected under 35 U.S.C. § 103(a) as unpatentable over Chondroudis. Applicants respectfully traverse these rejections.

Chondroudis discloses, in Figure 17, a substrate holder 251 (including base 281, rim 285, and hub 289) that receives a connector 291 whose lower end is engaged in a bore of a drive shaft 271 for rotating a substrate during processing. As shown in Figure 19, the drive shaft 271 has an upper end 275 with two keyway slots 295 that receive keys 293 of the connector 291 to prevent rotational slippage.

As amended, independent Claim 1 recites a retaining member configured to couple the substrate holder support to the rotational drive to thereby prevent rotational slippage of the substrate holder support relative to the rotational drive, the retaining member being *selectively removable* from the substrate holder support and the rotational drive. The selective removability allows for rotational decoupling of the shaft and the substrate holder support.

Chondroudis at best discloses a substrate holder 251, a "substrate holder support" 291, and a "rotational drive" 271. The Office Action reads the keys 293 as the claimed retaining member. However, the keys 293 are not selectively removable from the connector 291. Thus, Chondroudis does not disclose all of the limitations of Claim 1, as required for a section 102(a) rejection. Accordingly, Applicants respectfully request that this rejection of Claim 1 be withdrawn.

Dependent Claims 10-12 recite additional features of advantage and utility. Furthermore, these dependent claims are allowable *a fortiori* for substantially the same reasons presented above. Claims 10-12 depend from and therefore include all of the limitations of Claim 1, which distinguish patentably over Chondroudis. Chondroudis does not disclose or suggest all of the limitations of Claim 1, let alone the additional unique combinations of limitations recited by Claims 10-12. Accordingly, Applicants respectfully request that the rejection of Claims 10-12 also be withdrawn.

Appl. No. : 10/769,549
Filed : January 30, 2004

Dependent Claims 13, 14, 16-21, 24-26, 28-31, and 38

Dependent Claims 13, 14, 16-21, 24-26, 28-31, and 38 are rejected under 35 U.S.C. § 103(a) as unpatentable over Chondroudis in view of various combinations of secondary references. In general, these rejections should be withdrawn because the secondary references do not supply the deficiencies of Chondroudis with respect to amended Claim 1. Thus, the cited combinations of references do not include all of the limitations of Claim 1, let alone the additional unique combinations of limitations recited by these dependent claims. Accordingly, these rejections should be withdrawn.

As noted, these dependent claims recite additional features of advantage and utility, which are not suggested by the cited prior art combinations. Several examples are mentioned below, it being understood that Applicants expressly do not acquiesce with respect to non-addressed rejections:

Claim 13

For example, Claim 13 stands rejected as unpatentable over Chondroudis in view of U.S. Patent Application Publication No. 2003/0205324 to Keeton *et al.* ("Keeton"). The Office Action asserts that Chondroudis teaches all of the limitations of Claim 13 except for a tapered surface at the upper end of the shaft, and that Keeton teaches a drive shaft 24 whose upper end is tapered to fit within a recess of a support spider 22. Applicants respectfully disagree with this rejection.

The present rejection is improper because Keeton is not citable against the present application in an obviousness rejection. Keeton can only possibly qualify as prior art under 35 U.S.C. § 102(e) (Applicants nonetheless do not admit that Keeton is prior art to the present application). However, Keeton has been assigned to ASM America, Inc., the same assignee of the present application. Under 35 U.S.C. § 103(c), Keeton is ***not citable against the present application*** in an obviousness rejection. Accordingly, this rejection should be withdrawn.

Even if Keeton were citable against the present application in an obviousness rejection, Keeton does not disclose the specific limitations of Claim 13. Claim 13 recites that one end of the shaft includes a tapered surface and the at least one indentation is located on the tapered surface. Keeton does not disclose or suggest an indentation located on the tapered surface of the

drive shaft 24. Also, there is no reason why Keeton would have motivated a skilled artisan to taper the upper end 275 of Chondroudis's drive shaft 271, particularly when tapering the upper end 275 might interfere with its ability to engage the keys 293 within the keyway slots 295.

Claims 18, 20

Claim 18 stands rejected as unpatentable over Chondroudis in view of U.S. Patent Application Publication No. 2003/0224105 to Aggarwal *et al.* ("Aggarwal"). The Office Action points to Aggarwal's teaching of a substrate holder (Figures 8 and 9) comprising a lift ring 90 supported on a rotatable inner plug 91. The Office Action reads the inner plug 91 as the claimed "socket" and notes that the inner plug 91 has recesses 98 (read as the claimed "opening") that are shaped and sized to receive anti-rotation keys 106 to prevent relative rotation between the inner plug and the lift ring 90. Applicants respectfully disagree with this rejection.

Aggarwal, which has now issued as U.S. Patent No. 6,776,849, can only qualify as prior art under 35 U.S.C. § 102(e) (Applicants nonetheless do not admit that Aggarwal is prior art to the present application). However, Aggarwal has also been assigned to ASM America, Inc., the same assignee of the present application. Under 35 U.S.C. § 103(c), Aggarwal is *not citable against the present application* in an obviousness rejection. Accordingly, this rejection should be withdrawn.

Even if Aggarwal were citable against the present application in an obviousness rejection, Aggarwal does not disclose the limitations of Claim 18 or reasonably suggest modifying Chondroudis to have them. Claim 18 recites that "the rotational drive comprises a shaft having at least one indentation and the substrate holder support comprises a *socket* configured to *receive a portion* of the shaft, the support having an opening located in a *sidewall* of the socket, the support being configured so that insertion of the retaining member into the opening engages the retaining member with the at least one indentation in the shaft to prevent rotation of the substrate holder support with respect to the shaft." First, Aggarwal does not disclose a socket. The inner plug 91 is not a socket – it is rather a disc-shaped interior portion of a substrate holder. Nothing in Aggarwal would have suggested modifying Chondroudis's connector 291 (which is the only element of Chondroudis that can reasonably be interpreted as the "substrate holder support" of Claim 1) to have a socket for receiving an end of the drive shaft 271. Second, it is unclear how

the skilled artisan could have incorporated Aggarwal's inner plug 91 with recesses 98 and lift ring 90 with anti-rotation keys 106 into the structure of Chondroudis's connector 291 and drive shaft 271. Third, neither reference suggests or motivates the proposed modification. What would the skilled artisan have gained by incorporating the Aggarwal structure into Chondroudis? The Office Action states that the gain would be "to prevent rotation between shaft and support." However, Chondroudis already achieves this with keys 293 and keyway slots 295.

Claim 20, which depends from Claim 18, recites additional limitations of advantage and utility, namely that the opening comprises an *elongated slot* and the retaining member is sized and configured to be received within and occlude substantially the entire length of the slot. These features are not disclosed or suggested by either Aggarwal or Chondroudis. The Office Action reads Aggarwal's recesses 98 as the claimed "opening." The recesses 98 are clearly not an elongated slot.

Claim 19

Claim 19 stands rejected as unpatentable over Chondroudis in view of Aggarwal, as applied above to Claim 18, and further in view of U.S. Patent No. 5,562,947 to White *et al* ("White"). The Office Action asserts that White teaches a susceptor body 100 (Figure 4) with a flange 110 that is coupled through a hole (read as an "opening") to a drive shaft 50 whose top surface 112 has a hole (read as an "indentation") to receive a screw 113 (read as a "retaining member"). The Office Action asserts that White made it obvious to one of ordinary skill in the art to use an opening in a susceptor aligned with an indentation in a shaft in the Chondroudis/Aggarwal combination to provide slip-free linkage between the susceptor and the shaft. Applicants respectfully disagree with this rejection.

First, White does not supply the abovementioned deficiency of the Chondroudis/Aggarwal combination with respect to Claim 18, from which Claim 19 depends. Second, White does not disclose or suggest the specific limitations of Claim 19, which recites that the opening and the at least one indentation, when aligned, together form a passage configured to receive the retaining member. The Office Action reads the hole through which White's flange 110 is coupled to the drive shaft 50 as the claimed "opening." However, Claim 19 refers to an "opening" within a socket sidewall. The hole to which the Office Action refers

Appl. No. : 10/769,549
Filed : January 30, 2004

appears to be a screw hole for the screw 113. Since this screw hole is not an opening within a socket sidewall, White does not suggest aligning anything with an opening in a socket sidewall. Further, the Office Action reads the hole of the drive shaft 50 that receives the screw 113 as the claimed "indentation." However, this screw hole is not an indentation, nor is it positioned to be aligned with an opening located in a socket sidewall, as claimed.

Claim 21

Claim 21 stands rejected as unpatentable over Chondroudis in view of Aggarwal, as applied above to Claim 18, and further in view of U.S. Patent No. 5,472,510 to Green *et al* ("Green") and U.S. Patent No. 6,293,595 to Marc *et al* ("Marc"). Claim 21 depends on Claim 18 and recites a lock for selectively securing the retaining member in the slot. The Office Action asserts that Green discloses, in Figure 7C, screws 36 that lock movement of rotary shafts 34, 34a, and that Marc discloses an anti-rotation locking unit for a support member where one of the mutually rotatable elements can be selectively locked by a locking member. The Office Action asserts that Green and Marc made it obvious to use a support assembly having selective locking in the apparatus of the Chondroudis/Aggarwal combination. Applicants respectfully disagree with this rejection.

First, Green and Marc do not supply the aforementioned deficiency of Chondroudis and Aggarwal with respect to Claim 18. Second, neither Green nor Marc discloses or suggests the limitations of Claim 21. Green merely discloses screws for preventing vertical translation of the rotary shafts 34, 34a. Green, col. 16, lines 23-25. Marc merely discloses, in Figure 1A, a locking member 4 with a tooth 7 that engages teeth 6 of a support member 3 to prevent relative rotation between the members 3 and 4. Neither reference even remotely suggests providing a lock for selectively securing a retaining member that couples a substrate holder support to a rotational drive to thereby prevent rotational slippage. The mere disclosure of features that prevent relative rotation or movement between two elements does not make it obvious to provide the claimed lock.

Claim 24

Claim 24 (which depends on Claim 18) stands rejected as unpatentable over Chondroudis in view of Aggarwal as applied above to Claim 18, and further in view of U.S. Patent No. 6,486,550 to Travis ("Travis"). The Office Action states that Travis teaches a conveyor 26 with a locking mechanism 40 (including a locking element 46) for securing wafer carriers 28 onto the conveyor. The locking mechanism 40 has an unlocked state (read as the claimed "first position") and a locked state (read as the claimed "second position"). The Office Action asserts that Travis further teaches that the locking member 46 can be selected to be of any suitable shape, including a right angled shape as per other adjacent mating parts. The Office Action concludes that Travis made it obvious to use a locking mechanism with two-position (lock and unlock) operation in the apparatus of Chondroudis/Aggarwal. Applicants respectfully disagree with this rejection.

First, Travis does not supply the aforementioned deficiency of Chondroudis and Aggarwal with respect to Claim 18. Second, Travis does not disclose or suggest the specific limitations of Claim 24, which recites that "the retaining member has a first end and a second end oriented generally transverse to the first end, the first end configured to be inserted into the opening in engagement with the shaft indentation, the first end being rotatable within the opening such that the second end is movable between a first position and a second position, wherein when the second end is in the second position the first end is prevented from being pulled out of the opening and the indentation by a securing element of the substrate holder support bearing against the second end, and wherein when the second end is in the first position the first end can be freely pulled out of the opening and the indentation." Travis merely discloses, in Figures 3 and 4, a locking mechanism 40 that concentrically surrounds the wafer carrier 28, the locking mechanism comprising a retention ring 42, a cam ring 44 concentric with the retention ring 42, and a plurality of locking elements 46 (illustrated as spherical balls) movably disposed between the retention ring and cam ring. When the rings 42 and 44 are rotated relative to one another, the locking mechanism moves between its locked position (in which the wafer carrier 28 is locked to the conveyor plate) and its unlocked position (in which the wafer carrier 28 can be removed). Nothing in Travis suggests (1) a retaining member that couples a substrate holder support to a rotational drive to prevent rotational slippage therebetween; (2) a retaining member having first and second ends; (3) the first and second ends being transverse to one another; (4) the first end

Appl. No. : **10/769,549**
Filed : **January 30, 2004**

being rotatable within an opening in a socket sidewall of a substrate holder support; or (5) any structure for preventing such a retaining member from being pulled out of such an opening. The Office Action asserts that Travis suggests that the locking member 46 can have “a right angled shape.” Applicants disagree. Aside from teaching that the locking elements 46 can be “any other shape capable of being movably positioned within the retention ring 42 and the cam ring 44,” Travis does not appear to specifically disclose a right angled shape. *See* Travis, col. 6, lines 57-60. Even if it did disclose a right angled shape for the locking elements 46, Travis still would not suggest a retaining member as claimed, because there is no suggestion in the prior art for providing such a shape for a retaining member between a substrate holder support and a rotational drive (as opposed to between a conveyor plate and a wafer carrier, as in Travis).

Claim 39

Claim 39 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Chondroudis in view of Aggarwal, White, and Travis. With a few exceptions, the Office Action does not clearly indicate which elements of these four references are read as the claimed limitations, and it is very difficult to understand the proposed combination of these references. As best understood, the Office Action appears to read Aggarwal’s support spider 22 as the claimed “support member,” Aggarwal’s support arms 19 as the claimed “arms,” Aggarwal’s inner plug 91 as the claimed “receptor” (just as in Claim 18 the Office Action interpreted it as the claimed “socket”), White’s screw 113 as the claimed “locking key,” and Chondroudis’s drive shaft 271 as the claimed “rotational linkage.” As for the claimed recitation of the receptor having a hole in a sidewall of the receptor, the Office Action points to Aggarwal’s teaching in Figures 8-12B of a susceptor comprising an inner plug 91 with tapered support portions 96 that support a lift ring 91. As for the claimed recitation of the rotational linkage having an end portion configured to be received within the receptor such that the rotational linkage is at least partially rotatable with respect to the receptor about a longitudinal axis of the rotational linkage, the Office Action points to Travis’s disclosure of a locking mechanism 40 comprising a retention ring 42 and cam ring 44 that are relatively rotatable to lock a wafer carrier 28 onto a conveyor plate 26. Note that this could be an incorrect interpretation of the rejection, as the Office Action is very ambiguous and lends

Appl. No. : 10/769,549
Filed : January 30, 2004

itself to different interpretations. In any case, Applicants respectfully disagree with this rejection for many reasons, not all of which are explained herein.

As mentioned above, under 35 U.S.C. § 103(c), Aggarwal is *not citable against the present application* in an obviousness rejection. Accordingly, this rejection should be withdrawn on this basis alone.

Claim 39 recites a support member having a receptor and a plurality of arms extending generally radially outward from the receptor, the arms being configured to support an underside of a substrate holder. The only reference that discloses such a support member is Aggarwal. Thus, the Office Action appears to take the position that it would have been obvious to replace Chondroudis's connector 291 with Aggarwal's support spider 22. However, the Office Action provides no reason why the skilled artisan would have been motivated to do so, and the prior art does not appear to suggest the modification.

Claim 39 recites that the receptor has a hole in a sidewall of the receptor, the receptor being configured to receive an end portion of an elongated rotational linkage. Regarding this limitation, the Office Action points to Aggarwal's teaching in Figures 8-12B of a susceptor comprising an inner plug 91 with tapered support portions 96 that support a lift ring 91. Applicants disagree with the Office Action's characterization of Aggarwal. Aggarwal merely discloses a *susceptor* (not a support member for a substrate holder) that comprises a disc-shaped inner plug 91 with three tapered circumferential support portions 96 separated by *recesses* (not holes) 98. The inner plug 91 mates with and supports a lift ring 90 with anti-rotation keys 106 that fit into the recesses 98. Moreover, the inner plug 91 is not configured to receive an end portion of a rotational linkage. Aggarwal does not disclose or suggest a receptor that has a hole in a sidewall of the receptor and is configured to receive an end portion of an elongated rotational linkage.

Claim 39 recites an elongated rotational linkage having an end portion configured to be received within the receptor such that the rotational linkage is at least partially rotatable with respect to the receptor about a longitudinal axis of the rotational linkage. Regarding this limitation, the Office Action points to Travis's disclosure of a locking mechanism 40 comprising a retention ring 42 and cam ring 44 that are relatively rotatable with respect to one another to lock a wafer carrier 28 onto a conveyor plate 26. Applicants disagree with the Office Action's

characterization of Travis. Travis merely involves the securement of a wafer carrier to a conveyor plate. There is nothing in Travis that suggests applying this locking mechanism to a connection between an elongated rotational linkage and a support member for supporting the underside of a substrate holder. Also, Travis's mere disclosure of a locking mechanism involving some relative rotation between a retention ring 42 and a concentrically positioned cam ring 44 does not suggest an elongated rotational linkage having an end portion configured to be received within a receptor such that the rotational linkage is at least partially rotatable with respect to the receptor.

Claim 39 recites that the hole in the receptor sidewall and at least one retaining surface of the end portion of the rotational linkage are configured so that when the rotational linkage is rotated to a locking position, the at least one retaining surface and the hole together form a passage sized and configured to receive a locking key in a manner such that the locking key prevents the support member from rotating independently of the rotational linkage. The Office Action points to White's screw 113 as the claimed "locking key." As explained above, Aggarwal does not disclose or suggest a receptor configured to receive an end portion of an elongated rotational drive, let alone a hole in the receptor sidewall. Thus, it is unclear exactly how White could possibly suggest a structure in which Aggarwal's alleged hole and a retaining surface of Aggarwal's alleged rotational drive could align to form a passage. Applicants concede that White discloses a screw 113 that fastens a susceptor body 100 to the upper horizontal end surface of a drive shaft 50. However, the screw 113 does not pass through a hole in a receptor sidewall.

Claim 40

Claim 40 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Chondroudis, Aggarwal, White, and Travis, as applied above to Claim 39, and further in view of Green. The Office Action asserts that Green's disclosure of radial substrate supports 40 and 40a coupled with rotary shafts 34 and 34a, where the rotary shafts can be moved vertically by removing screws 36, made it obvious to modify the Chondroudis/Aggarwal/White/Travis combination to have the Green apparatus to enable unlocking in the vertical direction. Applicants respectfully disagree.

First, Claim 40 is allowable for substantially the same reasons presented above. Claim 40 depends from and therefore includes all of the limitations of Claim 39, which distinguish

patentably over the cited combination of references (as explained above). The cited combination does not include or suggest all of the limitations of Claim 39, let alone the additional unique combination of limitations recited by Claims 40.

Second, Claim 40 recites additional features of advantage and utility that are not suggested by Green. Claim 40 recites that the locking key locks the support member to the rotational drive with respect to rotationally and horizontally applied forces *without locking the support member to the rotational drive with respect to vertically applied forces*. Green discloses an apparatus including a substrate magazine 33 that is rotated by rotary shafts 34, 34a. When screws 36 are tightened, the rotary shafts 34, 34a are secured to translatable rotary shaft connectors 35, 35a, and the rotary shafts 34, 34a are prevented from moving vertically. When the screws 36 are loosened, the shafts 34, 34a can be moved vertically to facilitate removal of the magazine 33. Green, col. 16, lines 11-35. Significantly, when the screws 36 are tightened, they lock the shafts 34, 34a to the connectors 35, 35a with respect to rotationally and horizontally applied forces *and also with respect to vertically applied forces*. Thus, the cited apparatus of Green does not meet the language of Claim 40. Further, Green does not suggest applying its locking feature to the connection between a rotational drive and a substrate holder support receptor. Rather, Green applies its locking feature to a connection between two shafts. Thus, Green does not disclose or suggest the limitations of Claim 40, let alone modifying another reference or combination of references to have them.

Appl. No. : 10/769,549
Filed : January 30, 2004

CONCLUSION

In view of the foregoing amendments and remarks, Applicants respectfully submit that this application is in condition for allowance. Also, Applicants expressly do not acquiesce with respect to any rejections that are not addressed above. If there is any further hindrance to allowance of the pending claims, the Examiner is invited to contact the undersigned.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: 6/26/06

By: Sanjivpal S. Gill
Sanjivpal S. Gill
Registration No. 42,578
Attorney of Record
Customer No. 20,995
(415) 954-4114

2687073
061506